Comparative study between brushing and lavage techniques to diagnose uterine inflammation in the queen

Universitat Autònoma de Barcelona

Anna Serrano Sánchez | Final degree project | Faculty of Veterinary Medicine | February 2020

INTRODUCTION

Endometritis has been demonstrated to induce infertility in several species as cows, mares and bitches.

Diagnostic tools include endometrial bacteriology, cytology and biopsy.

OBJECTIVE

The aim of the present study was to compare endometrial brushing and uterine lavage as possible techniques in the diagnosis of uterine inflammation in the queen.

MATERIALS AND METHODS

Forty-seven females were referred for a ovariohysterectomy.

Three different uterine samples were analyzed:

- **Microbiology** obtained by sterile swab
- **Histology** obtained by full-thick biopsy
- **Cytology** comparing two different techniques

47

Brushing *n= 20* — obtained by brushing a sterile swab against the endometrium

Lavage *n= 27* — infused and recovered with PBS

Cytology evaluated the total number of **neutrophils**. Samples were classified in 4 categories:

0	0
+1	1-10
+2	>10 but isolated
+3	>10 large clumps

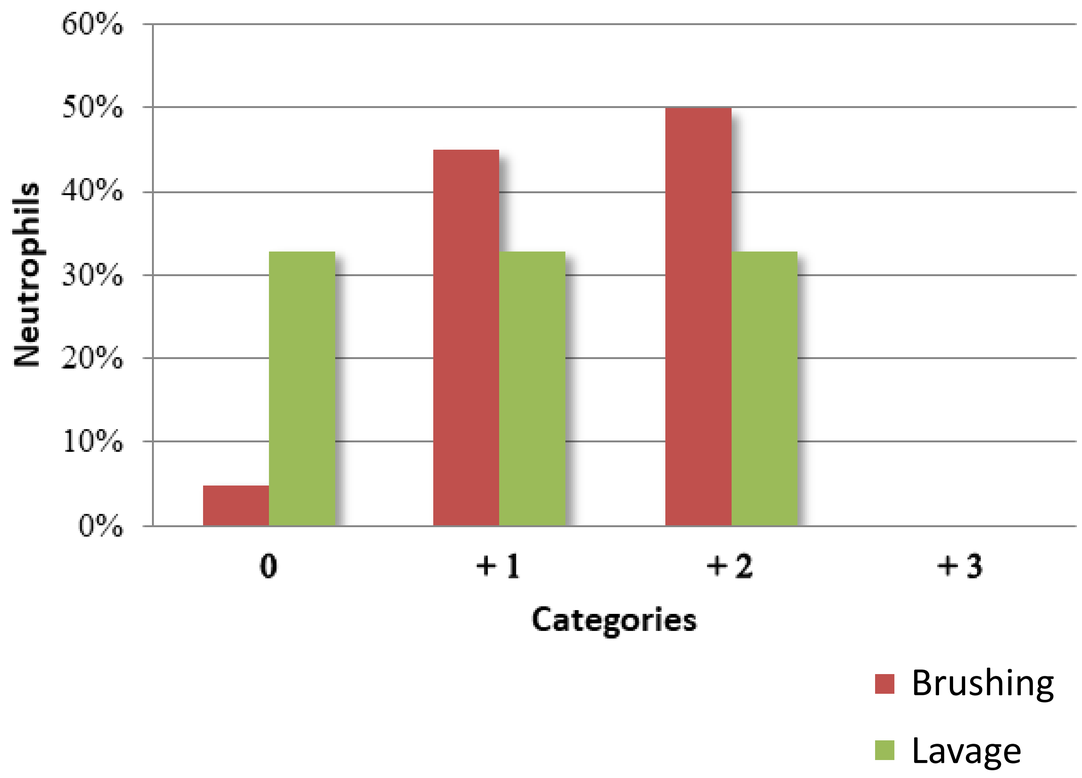
RESULTS

Microbiological results were all negative.

Biopsies showed no signs of acute or chronic inflammation.

Cytology brushing samples showed, on the one hand higher scores of neutrophils than lavage samples, and on the other hand higher morphological abnormalities.

	Brushing *n=20*	Lavage *n=27*
0	5%	33.3%
+1	45%	33.3%
+2	50%	33.3%
+3	0%	0%



DISCUSSION AND CONCLUSIONS

- **Lavage samples** provide closer neutrophil scores to biopsy than brushing samples, suggesting that they are more reliable than brushing samples.
- **Brushing technique** showed a higher score of neutrophils and a higher degree of morphological abnormalities than those obtained by uterine lavage.
- The friction of the swab against the endometrium during the sample obtaining can induce the break of endometrial capillaries allowing the release of **neutrophils** and the increase of **morphological abnormalities**.